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A New Species of *Dicranodontium* (Musci: Dicranaceae) from Panama

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ABSTRACT. The presence of an autoicous species in *Dicranodontium* (*Dicranodontium intermedium*, species nova) further supports Williams's taxonomic decision to unite *Atractylocarpus* and *Dicranodontium*.

Dicranodontium is a group of medium-sized mosses typically having narrow to setaceous leaves, broad costae, linear leaf cells, nonsheathing perichaetial leaves, and cygneous setae. The genus is gametophytically identical to *Atractylocarpus*: the genera differ only in sexuality (dioicous in *Dicranodontium*, autoicous in *Atractylocarpus*) and the stance of their moist setae (cygneous in *Dicranodontium*, erect to flexuous in *Atractylocarpus*). Based on his observations on the variability of setae curvature within identical species, Williams (1913) synonymized the two genera. The following new species of *Dicranodontium*, which has a cygneous seta but is autoicous, adds further support to Williams's taxonomic view of these two genera.

Dicranodontium intermedium Allen, sp. nov.

TYPE: Panama. Chiriquí: Volcán Barú, 8°45'N, 82°30'W, *Allen 9123* (holotype, MO; isotypes, NY, PMA). Figures 1–7.

Species nova *D. meridionali* affinis, a qua differt facie grossiore, sexuali statu autoico et cellulis interioribus basalibus foliorum incrassatis, porosis.

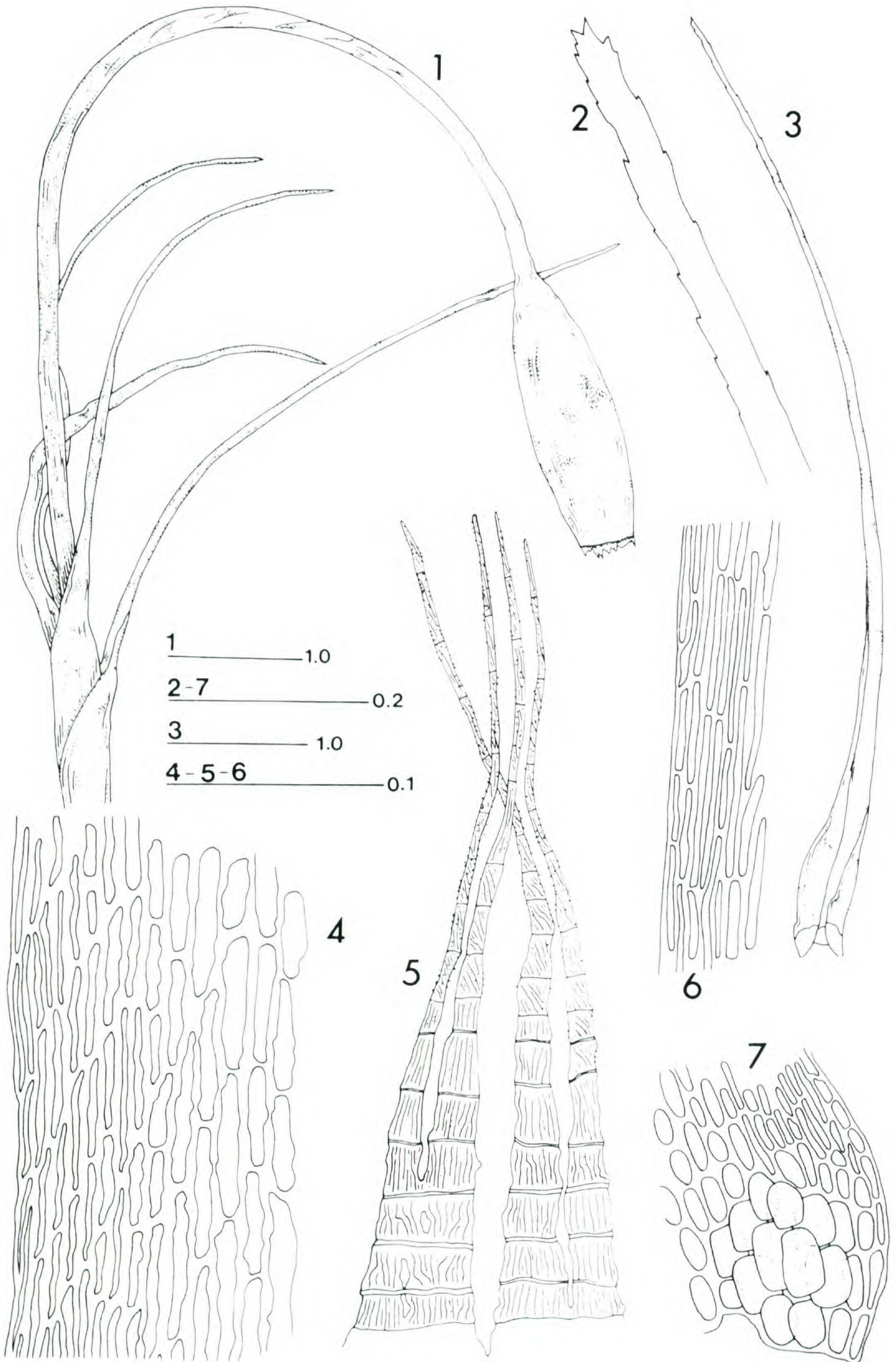
Plants medium sized, in loose, erect, greenish yellow tufts, epiphytic or occasionally terrestrial. Stems moderately to densely white or red-tomentose, up to 5 cm long, branching irregularly; epidermal cells thick-walled, red-brown. Leaves evenly and well spaced, erect-spreading to falcate; concave below, tubulose above, narrowly lanceolate from a shortly

ovate base, 8–11 mm long, apex long setaceous, sharply and densely denticulate above. Upper leaf cells linear, firm-walled; median leaf cells long-rectangular, incrassate and porose, occasionally smooth-walled; basal cells near the costa rectangular, incrassate and strongly porose, the outer basal cells longer and narrower forming a short, hyaline border; alar cells well developed, red-brown, occasionally fugacious. Autoicous. Perigonia terminal on short branches (1.5–5.0 mm) below the perichaetia. Setae yellow becoming red, smooth, 10–13 mm long, red, twisted and erect when dry, cygneous when wet. Capsules erect and symmetrical, smooth or weakly furrowed when dry, oblong, 2.0–2.5 mm long, lightly roughened at base; peristome yellowish becoming dark red; teeth 0.5 mm long, deeply divided (at times almost to the base), dorsal surface vertically striate. Opercula 1.5 mm long. Calyptrae 3.0 mm long, entire at base. Spores lightly papillose, yellow, 20 μ m.

Paratypes. PANAMA. CHIRIQUÍ: Volcán Barú, *Allen 9127, 9132, Davidse & D'Arcy 102901* (all MO).

Epiphytic on branches in subcanopy, on tree trunks, fallen logs and occasionally terrestrial between 2,300 and 3,505 m.

Dicranodontium intermedium has broad leaves that are atypical for the genus. In gross aspect it looks very much like a species of *Campylopus*. Furthermore, its well-developed alar cells and incrassate, porose basal leaf cells are common features of that genus. However, its linear upper leaf cells and autoicous sexual condition cannot be accommodated in *Campylopus*. Three species of *Dicranodontium* (sensu Williams, 1913) are now known from Central America. They are separated in the following key.



KEY TO THE SPECIES OF *DICRANODONTIUM* IN CENTRAL AMERICA

- 1a. Inner basal leaf cells enlarged, thin-walled, non-porose and strongly contrasting with narrow, incrassate and porose outer basal leaf cells; dioicous *D. meridionale* Bartr.
- 1b. Inner basal cells not differentiated from the outer basal cells, either firm-walled or incrassate and porose throughout; autoicous.
 - 2a. Leaves broadly ovate at base, basal and median leaf cells incrassate and porose, alar cells well developed; setae cygneous when wet *D. intermedium* Allen

- 2b. Leaves linear to shortly ovate at base, basal and median cells firm-walled straight or weakly porose, alar cells poorly developed, fugacious; setae erect to flexuous when wet *D. longiseta* (Hook) Williams

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Literature Cited

Williams, R. S. 1913. Dicranaceae. N. Amer. Fl. 15: 77-158.

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Figures 1-7. *Dicranodontium intermedium* Allen. —1. Sporophyte. —2. Leaf apex. —3. Leaf. —4. Lower leaf cells. —5. Peristome teeth, outer (dorsal) surface. —6. Upper leaf cells. —7. Alar cells. Scale bars in mm. Drawn from the holotype.